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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/849,354	05/18/2004	Iliyan N. Nenov	6570.P112	6296

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BLAKELY SOKOLOFF TAYLOR & ZAFMAN
12400 WILSHIRE BOULEVARD
SEVENTH FLOOR
LOS ANGELES, CA 90025-1030

EXAMINER	
KO, DANIEL BOKMIN	

ART UNIT	PAPER NUMBER
2189	

DATE MAILED: 07/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/849,354	NENOV ET AL.	
	Examiner	Art Unit	
	Daniel B. Ko	2189	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 May 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 May 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *5/18/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This action is responsive to the application filed on 5/18/2004. Claims 1-33 have been submitted for examination.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 5/18/2004 was considered by the examiner.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1. Claims 1-5, 9-16, 20-27, and 30-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bird (US Patent 6,321,235 B1), in view of Smith et al. (US Patent 5,594,886), hereinafter simply Smith.

Regarding claims 1, 13, 22, and 30, Bird teaches a caching method, comprising:

caching first data received from a data source within a static cache as stable data, the static cache having a fixed size (column 5, lines 12-25);

enrolling the evicted portions of the stable data into the dynamic cache as soft data, the dynamic cache having a dynamic size (column 5, lines 26-29).

Bird fails to teach evicting portions of the stable data within the static cache to a dynamic cache when the static cache is full. Smith teaches evicting portions of the stable data within the static cache to a dynamic cache when the static cache is full (column 10, lines 22-25). At the time of invention it would have been obvious to a person of ordinary skill in the art to combine the Bird with Smith. The motivation for doing so would have been an efficient cache replacement method (column 2, lines 19-25).

Regarding claims 2, 14, 23, and 31, Bird teaches a caching method, wherein the dynamic cache is dynamically sized according to availability of memory (column 10, lines 49-61).

Regarding claims 3 and 20, Bird teaches a caching method, wherein evicting the portions of the stable data further comprises evicting the portions of the stable data to the dynamic cache according to a Least Recently Used eviction policy (column 10, lines 39-42).

Regarding claims 4, 15, 16, 24, 25, 32, and 33, Bird teaches a caching method, further comprising: evicting selectively at least some of the soft data from the dynamic cache when the availability of the memory is scarce; and contracting the dynamic cache to release some of the memory consumed by the dynamic cache (column 10, lines 62-67; column 11, lines 1-4).

Regarding claim 5, Bird teaches a caching method, wherein evicting selectively the at least some of the soft data further comprises evicting the at least some of the soft data according to a Least Recently Used eviction policy (column 10, lines 39-42).

Regarding claim 9, Bird teaches a caching method, further comprising:

intercepting a request for second data from the data source; determining whether the second data is cached within either of the static cache and dynamic cache; and providing the second data from either of the static cache and the dynamic cache instead of the data source, if the determining determines that the second data is cached (column 9, lines 5-19).

Regarding claim 10, Bird teaches a caching method, further comprising moving the second data to a most recently used position within the static cache, if the determining determines that the second data is cached (Since Bird disclose a LRU method, it is obvious that a MRU can be used to moving the data into the cache).

Regarding claims 11 and 26, Bird teaches a caching method, wherein the static cache and the dynamic cache comprise a hybrid-cache within a single memory device (column 5, lines 12-15).

Regarding claims 12 and 21, Bird teaches a caching method, wherein the stable data and the soft data comprise objects of an object orientated language (column 2, lines 58-61).

2. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bird (US Patent 6,321,235 B1) and Smith et al. (US Patent 5,594,886), hereinafter simply Smith, and further in view of Kadashevich (US Patent Application 2005/0235054 A1).

Regarding claim 6, Bird and Smith teach the limitations of these claims as set forth for claims1, 2, and 4 above. However, Bird and Smith do not teach a caching method, wherein enrolling the evicted portions of the stable data into the dynamic cache as soft data comprises caching the soft data as hash values of a hash table, the hash values being indexed to keys for accessing the hash values. Kadashevich teaches a

caching method, wherein enrolling the evicted portions of the stable data into the dynamic cache as soft data comprises caching the soft data as hash values of a hash table, the hash values being indexed to keys for accessing the hash values (paragraphs 33 and 34). At the time of invention it would have been obvious to a person of ordinary skill in the art to combine the Bird and Smith with Kadashevich. The motivation for doing so would have been an efficient memory monitoring method (paragraph 5), which allows system resources to be adaptively managed (paragraph 4).

Regarding claim 7, Kadashevich teaches a caching method, wherein evicting selectively at least some of the soft data from the dynamic cache comprises: copying at least some of the keys into a garbage queue, the at least some of the keys corresponding to the at least some of the soft data; and removing at least some of the hash values from the hash table based on the at least some of the keys in the garbage queue (paragraphs 25, 32, and 33).

Regarding claim 8, Kadashevich teaches a caching method, wherein a Java Garbage Collector selectively copies the at least some of the keys into the garbage queue (paragraphs 33 and 34).

3. Claims 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bird (US Patent 6,321,235 B1) and Smith et al. (US Patent 5,594,886), hereinafter simply Smith, and in view of Kadashevich (US Patent Application 2005/0235054 A1),

and further in view of Stakutis et al. (US Patent Application 2003/0105936 A1), hereinafter simply Stakutis.

Regarding claim 17, Bird, Smith and Kadashevich teach the limitations of these claims as set forth for claims13, 14, and 15 above. However, Bird, Smith and Kadashevich do not teach caching the soft data within the dynamic cache according to a canonical mapping scheme. Stakutis teaches caching the soft data within the dynamic cache according to a canonical mapping scheme (paragraphs 33 and 34). At the time of invention it would have been obvious to a person of ordinary skill in the art to combine the Bird, Smith and Kadashevich with Stakutis. The motivation for doing so would have been a more flexible storage mapping (paragraph 42).

Regarding claim 18, Stakutis and Kadashevich teach a machine-accessed medium, wherein caching the soft data within the dynamic cache according to the canonical mapping scheme (See Stakutis paragraph 42) comprising caching the soft data as hash values of a hash table, the hash values being indexed to keys for accessing the hash values (See Kadashevich, paragraphs 33 and 34).

Regarding claim 19, Kadashevich teaches a machine-accessed medium, wherein evicting selectively at least some of the soft data from the dynamic cache comprises: copying at least some of the keys into a garbage queue, the at least some of the keys corresponding to the at least some of the soft data; and removing at least

some of the hash values from the hash table based on the at least some of the keys in the garbage queue (paragraphs 25, 32, and 33).

4. Claims 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bird (US Patent 6,321,235 B1) and Smith et al. (US Patent 5,594,886), hereinafter simply Smith, and further in view of Nguyen (US Patent Application 2003/0172145 A1).

Regarding claim 27, Bird and Smith teach the limitations of these claims as set forth for claim 22 above. However, Bird and Smith do not teach a caching server, and wherein the data source comprises an Internet. Nguyen teaches a caching server (paragraph 541), and wherein the data source comprises an Internet (paragraph 139).

At the time of invention it would have been obvious to a person of ordinary skill in the art to combine the Bird and Smith with Nguyen. The motivation for doing so would have been an improved scalability, availability, reliability, manageability, adaptability, security, performance, and open system of ISP architecture (paragraph 33).

Regarding claim 28, Nguyen teaches a system, wherein the system comprises an Application Server, wherein the requests for the first data from the data source comprise requests from clients of the Application Server (paragraph 546), and wherein the data source comprises at least one database (paragraphs 563 and 855).

Regarding claim 29, Nguyen teaches a system of claim 22, wherein the Application Server comprises one of a Java based Application Server and a .NET based Application Server (paragraphs 818 and 849).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel B. Ko whose telephone number is 571-272-8194.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Reginald G. Bragdon can be reached on 571-272-4204. The fax phone number for the organization where this application or proceeding is assigned is 703-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel Ko

Daniel B. Ko
AU 2189

Mano Padmanabhan
7/24/06

MANO PADMANABHAN
SUPERVISORY PATENT EXAMINER